

Session 2

Images of Group Exercises

Planning Processes

B

Planning Processes

estimation
future!
situation!

① baseLine study
current/local/exist
situation

identification
of all relevant
stake holders
(ownership)

operation
&
maintenane

② feasibility of
technical option
(Finances!)

legal framework!

decisions of
all stakeholders

③ selection
of best
option

demand
business model

④ approval and
clearances

monitoring
system

⑤ Detailed
Planning



Technologies & O&M

B

Technologies, O&M

TOILETS

- INDIVIDUAL TOILET
- COMMUNAL SEPTIC TANK

FLUSH TOILET +
POUR FLUSH TOILET

PUBLIC TOILETS
IN INDEA
ON PAY & USE BASIS
CONNECTED TO MUNICIPAL
SEWER NETWORK
ULTIMATELY CONVEYED TO STP

Emptying
& Transportation

- MOTOR CYCLE
- Feecal Truck
operation by GL/
private sector

Pipe to
off-site communal
septic tanks

Treatment Reuse

Drying
beds

- INHOE TANK
- CONFENSIONAL
SYSTEM
*ANAEROBIC, FACULTATIVE,
MATURATION + SDB

IN INDEA
WE ARE TREATING
SEWAGE AT STP'S
USING
SBR TECHNOLOGY
FOLLOWING STABILIZING
DECANTING

ABR +
Wetland +
...ing bed

Reuse

irrigation/
agriculture

- COMPOSTING
- GASBLIN

Construction

Cooling/
industrial

Technologies, O & M

- What are the suitable technologies for scaling up FSM

- What parameters need to be taken into account for Operation & Maintenance

* Life Cycle Analysis

* Sustainable business model

↳ selling the by-products

* trainings / capacity building

* awareness raising / promotion

* SOP

* Regulation / Enforcement

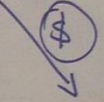
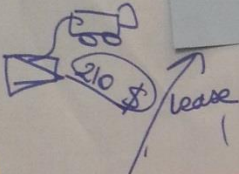
↳ pollution control

Business Models & Sanitation Marketing

B

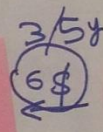
Business models \$
Sanitation
Marketing

MUNICIPALITY

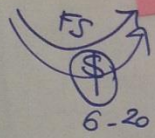


CONSUMERS
(service users)

PIT-EMPTYING
BUSINESSES



Treatment
Plant Operator
Private



\$4000
297 trips

24m³/d
(18m³)

BUSINESS MODEL

giz

improved toilets

emptying and transport

faecal sludge treatment

Business model ?

Potential revenue streams?

[CapEx]

OpEx / O&M

→ Collection Fees.

* RE-USE -

Biogas → Electricity
→ Kitchen

Compost → Farmers

Effluent → Irrigation
→ Firefighter

* Nexus FSM ↔ SWM (complementary business)

* Registration fee from collection businesses to the Water Utility

* Cross-subsidies (PRO-POOR)

Ownership Regulation

B

Ownership, Regulation & Enforcement

Local Responsibilities

Regulation

Enforcement

Toilet
- HH
- LG (public)

LG Act

MOH - inspectors
and/or LG officials

Coordination

FSM - Transport
- Private Service Provider
- Utility, LG (?)

Public Health Act

Outsourcing
* Monitoring
* Communication & Informing

FSM - Transport & Disposal
- Utility
- (ext. private sector)

Environment Act

WRM - Authority

Licensing (?)

Service Provision (?)
(≠ Environment)

- Project implementation
- Future development
(Ownership)

⇒ Harmonizing Approach
(FSM - Policy) or Service Provision

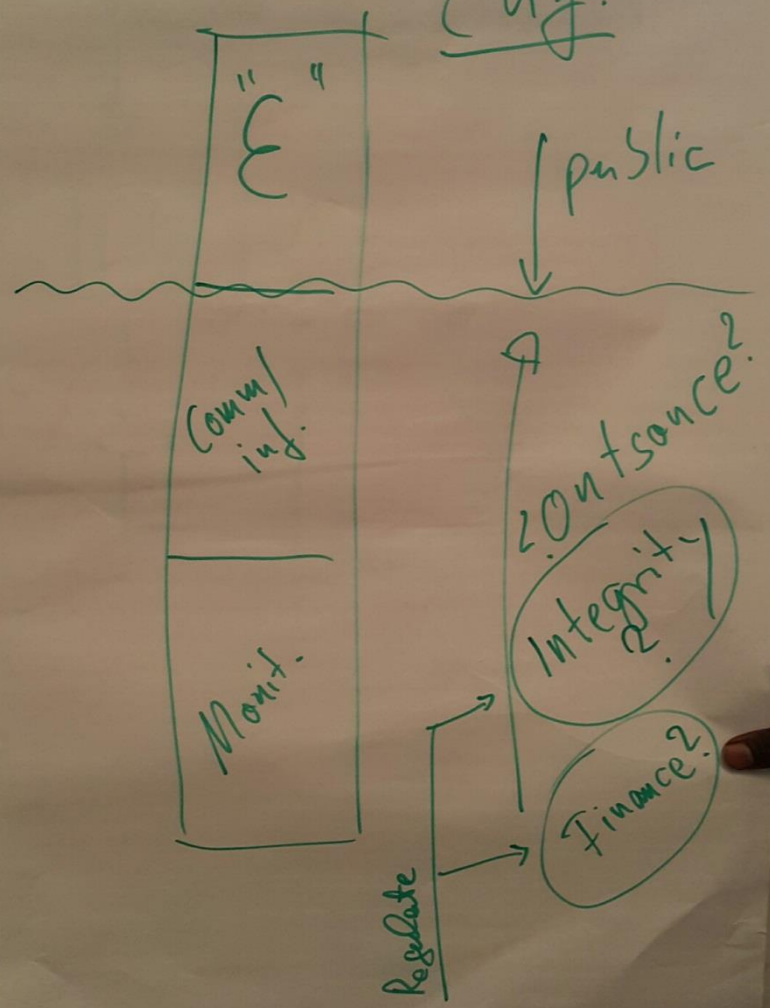
Enforcement (If)

→ Industrial Effluents
↳ Auto-control

→ Incentives (carrot).
for improvement
of services

MEMBERS' Registration

Enf.



Laws/Regulation Enforcement

LG SP

"E"

Monit. → Public (CT)
→ Regulator

Comm
CSOs
LG (WARR)
Utilities Regulator (Service)